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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,986	04/20/2005	Gunter Saliger	66489-050	5951

7590  
Dykema Gossett  
Suite 300  
1300 I Street N W  
Washington, DC 20005-3353

EXAMINER
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KILKENNY, PATRICK L

ART UNIT	PAPER NUMBER
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3732

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/18/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/531,986

Applicant(s)

SALIGER, GUNTER

Examiner

Patrick J. Kilkenney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taub et al. (6,334,772) in view of DaSilva et al. (6,419,484). Taub et al. discloses a system and methods for positioning a dental instrument at the correct position on a preparation sight. The methods involve obtaining a virtual image with computing position-dependent surface features of 2D data (i.e. tooth outline in Figs. 5A and 5B) relative to the desired end position of the dental device (Column 2, lines 56-63 and Column 7, lines 33-40). There is also a real image captured of the device and tooth by a camera located on the hand instrument to be used at the preparation site (Fig. 3). The two images are superimposed using the surface features to bring the two images to coincidence (Column 2, lines 56-63 and Column 7, lines 33-40). The surface features used to bring the two images into coincidence can also be a horizontal line (Figs. 6, 7A, and 7B). The system for positioning the dental device includes a hand instrument with a placement tool (22), a camera (26), and evaluating unit consisting of software for computing the reference features (which can be vectors such as horizontal and vertical lines) (Column 3, lines 43-53). The camera is integrated into the instrument and near

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the end of the placement tool. The distance for the placement tool end to the camera is known the depth of focus allows for close viewing and the lens can be a panoramic lens (Column 5, lines 47-50). Taub et al. does not disclose that the alignment is for positioning and implant into a jaw cavity and that the tool is a machining tool for drilling the cavity. DaSilva et al. discloses using optical fibers adjacent a dental drill for correct positioning of the drill. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system and methods of Taub et al., by incorporating a dental drill as the tool in the system for proper placement, as taught by DaSilva, since the methods of aligning the end position of the device are the same and it is known, and important, to keep dental drills within precise locations to avoid nerve damage.

With respect to claim 7, the office takes Official Notice that an illumination means, even if they are not directly incorporated into the image capture device are always used in image capturing (i.e. external light sources or natural lighting).

### ***Response to Arguments***

Applicant's arguments filed 9/18/2006 have been fully considered but they are not persuasive. In response to the argument that there is only a 2-dimensional image involved in the method of positioning an instrument, it is noted that the methods do rely on the 2-dimensional virtual and real images as seen in figures 5A and 5B. However, Taub et al. specifically discloses that the information regarding proper positioning of the instrument is on the basis of a virtual 3-dimensional computerized model, from which a

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virtual image of the teeth can be generated along with capturing of the real image (Column 4, lines 52-68).

In response to the argument that "there is no use of a horizontal line as the machining goes further and further into the drill hole, " this specific limitation is not stated in the claims. Therefore, it is irrelevant whether the reference includes those features or not. However, Figure 6 indicates the use of horizontal reference lines to bring the virtual and real surface images to coincidence.

### ***Conclusion***

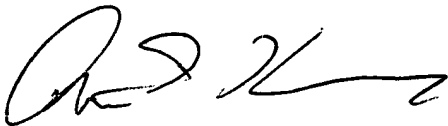
**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Kilkenny whose telephone number is (571) 272-8684. The examiner can normally be reached on Mon-Fri, 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Patrick J. Kilkenny

  
Cary E. O'Connor  
Primary Examiner